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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/599,036	06/21/2000	Esmaell Yousefi	NG(ST)8104	7772

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EXAMINER	
LY, NGHI H	
ART UNIT	**PAPER NUMBER**
2617	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/23/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/599,036	YOUSEFI ET AL.	
	Examiner	Art Unit	
	Nghi H. Ly	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 January 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10,11,22 and 26-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *10,11 and 22* is/are allowed.

6)☒ Claim(s) *26-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

The Art Unit location of your application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 01/11/07 have been fully considered but they are not persuasive.

On page 5 of applicant's remarks, applicant argues that Jacomb-Hood does not teach the first downlink beam is provided to one of the first cells that is adjacent to the first transition cell during one of the second percent of the time period and the remaining percent of the time period, and such that the second downlink beam is provided to one of the second cells that is adjacent to the second transition cell during one of the first percent of the time period and the remaining percent of the time period.

In response, Jacomb-Hood does indeed teaches the first downlink beam is provided to one of the first cells that is adjacent to the first transition cell during one of the second percent of the time period and the remaining percent of the time period (see Abstract and column 1, lines 33-44), and such that the second downlink beam is provided to one of the second cells that is adjacent to the second transition cell during one of the first percent of the time period and the remaining percent of the time period (see Abstract, see "beam-hopping" and column 1, lines 33-44). In addition, applicant attention is directed to the teaching of Jacomb-Hood does in claim 26 below.

On page 5 of applicant's remarks, applicant argues that Takahashi or Jacomb-Hood does not teach claim 26.

In response, the combination of Takahashi and Jacomb-Hood does indeed teach applicant's claim 26, 27 or 28. In addition, applicant attention is directed to the teaching of Jacomb-Hood does in claim 26, 27 or 28 below.

On page 5 of applicant's remarks, applicant argues that the Office action does not address the power gating circuit coupled to the waveform generator for gating power in the transmission downlink beam.

In response, the Office action does indeed address the power gating circuit coupled to the waveform generator for gating power in the transmission downlink beam.

In response, in order to "*assign communication resources in a beam-hopping cellular communication system. The satellite has a multiple beam antenna that covers a number of cells that is greater than the number of available beams in a preferred embodiment, the method includes the steps of selecting a frequency for each beam, computing a dwell time for each cell based on the traffic estimates for each cell and the number of available beams, and selecting a cell hopping sequence for each beam based on the dwell times and predicted inter-beam interference*" (see Jacomb-Hood, Abstract), the teaching of Jacomb-Hood inherently teaches the power gating circuit coupled to the waveform generator for gating power in the transmission downlink beam.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to

a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 26, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al (US 6,275,518) in view of Jacomb-Hood et al (US 6,522,643).

Regarding claims 26, 27 and 28, Takahashi teaches a system for generating a variable hop cycle beam laydown (see Abstract and column 3, lines 50-64, Takahashi teaches "*a plurality of predetermined radio frequencies are hoped at regular time intervals*" and it read on Applicant's "variable hop cycle beam") comprising: first cells supported by a first beam hop cycle associated with a first downlink beam (see fig.3, base station A or B with beams or in order to transmit signal, the teaching of Takahashi inherently teaches the downlink beam energy for first cells, and see column 3, lines 50-64), second cells supported by a second beam hop cycle associated with a second downlink beam, the second beam hop cycle being different than the first hop cycle (also see column 3, lines 50-64, Takahashi teaches "frequency hopping in different cells". Therefore, the teaching of Takahashi inherently includes second downlink beam), and

transition cells supported by a transition beam hop cycle (also see column 3, lines 50-64, Takahashi teaches "*frequency hopping in different cells*" and "*a plurality of predetermined radio frequencies are hoped at regular time intervals*". Therefore, the teaching of Takahashi inherently includes a transition cells, a transition downlink beam and a second cells).

Takahashi does not specifically disclose the transition beam hop cycle comprises transition downlink beam energy transmitted to a first transition cell a first percent of a time period, the transition downlink beam energy transmitted to a second transition cell a second percent of the time period and a power gated downlink beam associated with at least one of the first transition cell and the second transition cell for a remaining percent of the time period, such that the first downlink beam is provided to one of the first cells that is adjacent to the first transition cell during one of the second percent of the time period and the remaining percent of the time period, and such that the second downlink beam is provided to one of the second cells that is adjacent to the second transition cell during one of the first percent of the time period and the remaining percent of the time period.

Jacomb-Hood teaches the transition beam hop cycle comprises transition downlink beam energy transmitted to a first transition cell a first percent of a time period (see Abstract, see "beam-hopping", fig.1, see communication between a satellite and plurality of cells 120, and see column 1, lines 33-44), the transition downlink beam energy transmitted to a second transition cell a second percent of the time period and a power gated downlink beam associated with at least one of the first transition cell and

the second transition cell for a remaining percent of the time period (see column 1, lines 33-44 and column 2, lines 14-19), such that the first downlink beam is provided to one of the first cells that is adjacent to the first transition cell during one of the second percent of the time period and the remaining percent of the time period (see Abstract and column 1, lines 33-44), and such that the second downlink beam is provided to one of the second cells that is adjacent to the second transition cell during one of the first percent of the time period and the remaining percent of the time period (see Abstract, see "beam-hopping" and column 1, lines 33-44).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide the above teaching of Jacomb-Hood into the system of Takahashi in order to provide an apparatus, method and computer program product for assigning communication resources in a beam-hopping cellular communication system (see Jacomb-Hood, Abstract).

Allowable Subject Matter

5. Claims 10, 11 and 22 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 10, 11 and 22 are allowable over the prior art of record for the reasons as stated in the Office action dated 06/16/05 (pages 11-12).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi H. Ly whose telephone number is (571) 272-7911. The examiner can normally be reached on 8:30 am-5:30 pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nghi H. Ly